

## **A composition for the preparation of dentifrices and other dental products**

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### **Abstract**

The present invention consists of a composition which may be used in process of obtaining dentifrices and other dental products. It may find application in the production of oral hygiene and dental filling materials for dental cavities. Final products may be used independently or along with toothpastes. Dentifrices help to maintain hygiene in mouth and thanks to proper polishing of tooth surface they provide their white colour. Dentifrices may be supplied in the form of paste, powder, gel or liquid [1]. The composition comprises ions of tin (II), fluoride, phosphorus, and nanoparticles of silver, gold or copper.

The presence of tin ions gives a number of benefits, of which the most important are: the reduction of plaque, anti-inflammatory and antimicrobial effect, combating odour and reduction of tooth sensitivity [2]. The composition also contains fluoride ions, which are omnidirectional. Due to the presence of fluoride ions in dental products, it is possible to improve the overall health of the mouth. Properties of fluorine-containing formulations promote the strengthening of teeth. The coating on the tooth surface with a thin layer of fluorine-containing compounds, allows to remineralize the tooth enamel, which occurs due to the slow but continuous release of fluorine and its penetration into the tooth structure [3].

The addition of polyphosphates to the composition is also a novelty in the presented invention. These compounds are essential so that tin ions are stabilized. Polyphosphates prevent the formation of tartar and discoloration of teeth surface [4].

An additional innovation is the use of nanomaterials in the form of silver, gold or copper nanoparticles. In presented technology, they may be obtained directly during the preparation of the composition. Metals present in the nanocrystalline form are characterized by unique biocidal properties [5]. The use of nanomaterials allows to enhance antimicrobial effects, which is especially desirable in the case of oral hygienization.

### **References**

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